

What is claimed is:

1. A laser irradiation device comprising:

- a) a laser source for emitting a first laser beam;
- b) a first optical system for converting said first laser beam into a second laser beam;
- c) a Grating Light Valve™ having a plurality of reflective elements arranged in a predetermined direction for converting said second laser beam into modulated signal beams; and
- d) a second optical system for directing said signal beams onto a medium, wherein said second laser beam is linearly polarized in a direction substantially parallel to said predetermined direction.

2. The laser irradiation device according to claim 1, wherein

said first optical system comprises

a polarization direction converter for converting a polarization of said first laser beam.

3. The laser irradiation device according to claim 2, wherein

said polarization direction converter is a phase plate.

4. The laser irradiation device according to claim 3, wherein

said first laser beam has a peak wavelength within the range from 800 nm to 820 nm.

5. A laser irradiation device comprising:

a) a laser source having a plurality of emitters arranged in a first direction for emitting a first laser beam linearly polarized, said first laser beam being polarized in a second direction substantially perpendicular to said first direction;

b) a first optical system for converting said first laser beam into a second laser beam;

c) a Grating Light Valve™ having a plurality of reflective elements arranged in a predetermined direction for converting said second laser beam into modulated signal beams; and

d) a second optical system for directing said signal beams onto a medium, wherein said first optical system comprises a halfwave plate for rotating a polarization of said first laser beam by 90 degrees.

6. The laser irradiation device according to claim 5, wherein

said first laser beam has a peak wavelength ranging from 800 nm to 820 nm.

7. A laser irradiation device comprising:

a) a laser source having a single emitter for emitting a first laser beam substantially linearly polarized;

b) a first optical system for converting said first laser beam into a second laser beam;

c) a Grating Light Valve™ having a plurality of reflective elements arranged in a predetermined direction for converting said second laser beam into modulated signal beams; and

d) a second optical system for directing said signal beams onto a medium,

5

10

15

20

25

Sub  
100983074-102301  
Conf

wherein said second laser beam is linearly polarized in a direction substantially parallel to said predetermined direction.

8. The laser irradiation device according to claim 7, wherein  
5 said first laser beam has a peak wavelength within the range from 800 nm to 820 nm.

9. An image recorder for modulating a laser beam to record an image on a recording medium, said image recorder comprising:

10 a) a laser source for emitting a first laser beam having a peak wavelength ranging from 800 nm to 820 nm;

b) a Grating Light Valve™ for modulating said first laser beam in response to an image signal to produce a zero-order diffracted signal beam; and

15 c) an imaging optical system for irradiating said recording medium with said zero-order diffracted signal beam.

20 10. The image recorder according to claim 9,  
wherein said Grating Light Valve™ comprises  
a plurality of reflective elements arranged in a predetermined direction, and  
wherein said first laser beam is linearly polarized in a direction substantially parallel to said predetermined direction.

25 11. The image recorder according to claim 10, further comprising  
a polarization direction converter disposed between said laser source and said  
Grating Light Valve™ for converting a polarization direction of said first laser beam.

Sub  
12/1  
05523074-102301  
Conif

10  
15  
T0E20T"4204

add B. 1